

CLAIMS

The embodiments of the invention in which an exclusive property or right is claimed are defined as follows. Having thus described the invention

5 what is claimed is:

1. A method for installing and monitoring a proximity sensor, said method comprising the steps of:

10 detecting a target utilizing a sensor located proximate to said target;

automatically generating data said from said sensor, wherein said data comprises information indicative of the relative position of said target and said sensor; and

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thereafter transmitting said data from said sensor to a mobile device having a processor for processing said data and a graphical user interface for the display and manipulation of said data by a user of said mobile device in order to accurately position said sensor and target for installation and maintenance thereof.

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2. The method of claim 1 further comprising the step of processing said information through said processor associated with said mobile device to generate information associated with a gap present between said target and said sensor for proper installation and mounting of said target and said sensor.

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3. The method of claim 1 further comprising the steps of:

30 storing said data in a database accessible by said mobile device, in response to processing said data by said processor associated with said mobile device; and

thereafter retrieving said data from said database for fault detection and maintenance of said target.

5     4.     The method of claim 1 further comprising the step of:

associating said database with a network through which said mobile device communicates in order to access data stored within said database.

10    5.     The method of claim 4 wherein said network comprises a wireless network.

6.     The method of claim 4 wherein said network comprises a computer network.

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7.     The method of claim 1 further comprising the step of:

continuously detecting said target utilizing said sensor to thereby automatically generate updated data from said sensor, wherein said updated  
20    data comprises information updated indicative of the relative position of said target and said sensor.

8.     The method of claim 7 further comprising the step of:

25         automatically transmitting said updated data from said sensor to said mobile device for processing by said processor; and

thereafter storing said updated data within a database associated with said mobile device.

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9.     The method of claim 1 wherein said target comprises a component of a moving mechanical apparatus.

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11. A method for installing and monitoring a proximity sensor in an electro-mechanical system, said method comprising the steps of:

5 detecting a target utilizing a sensor located proximate to said target, wherein said target comprises a mechanical component of an electro-mechanical system;

10 automatically generating data said from said sensor, wherein said data comprises information indicative of the relative position of said target and said sensor;

11. 1.126 transmitting said data from said sensor to a mobile device having for processing by a processor associated by said mobile device;

15 processing said information through said processor associated with said mobile device to generate information associated with a gap present between said target and said sensor for proper installation and mounting of said target and said sensor;

20 storing said data in a database accessible by said mobile device, in response to processing said data by said processor associated with said mobile device; and

25 displaying said data via a graphical user interface associated with said mobile device in order for a user of said mobile device to accurately position said sensor and target for installation and maintenance thereof within said electro-mechanical system.

30 11. 12. A system, comprising:

a sensor for detecting a target located proximate to said target,

wherein said sensor automatically generates data from said sensor, such that said data comprises information indicative of the relative position of said target and said sensor;

- 5 a mobile device which communicates with said sensor, transmits instructions to said sensor, and receives said data from said sensor, wherein said mobile device comprises a processor and a graphical user interface for displaying said data; and

- 10 a sensor interface module which communicates with said processor of said mobile device and processes said data received by said mobile device from said sensor and instructs said graphical user interface to display said data in a format that permits a user of said mobile device to accurately manipulate said data in order to position said sensor and said target for  
15 installation and maintenance thereof.

12. The system of claim 12 wherein said sensor interface module further processes and instructs said processor associated with said mobile device to process said data and generate information indicative of a gap present  
20 between said target and said sensor for proper installation and mounting of said target and said sensor.

13. The system of claim 12 wherein said sensor interface module stores data in a database accessible by said mobile device, in response to  
25 processing said data by said processor associated with said mobile device; and thereafter retrieves said data from said database for fault detection and maintenance of said target.

14. The system of claim 12 further comprising a network to which said  
30 database is associated, wherein said mobile device communicates with said network in order to access data stored within said database.

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~~16~~ The system of claim ~~15~~ wherein said network comprises a wireless network.

~~16~~ <sup>14</sup>  
~~17~~ The system of claim ~~16~~ wherein said network comprises a computer network.

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~~17~~ <sup>11</sup>  
~~18~~ The system of claim ~~17~~ wherein said sensor interface module instructs said sensor to continuously generate updated data indicative of the relative position of said target and said sensor.

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~~18~~ <sup>17</sup>  
~~19~~ The system of claim ~~18~~ wherein said sensor interface module instructs said sensor to automatically transmit said updated data from said sensor to said mobile device for processing by said processor and subsequent storage within a database associated with said mobile device.

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~~20~~ The system of claim ~~19~~ wherein said sensor interface module processes data generated by said sensor indicative of undesirable back-metal effects thereof.

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